Survey of health care student attitudes towards transgender health care education

Vipul Shukla [a], Susan Dundas [a], Alex Asp [a], Barbara Saltzman [a], and Joan Duggan [a 1]

[a] University of Toledo Health Science Campus, Toledo, OH 43614

***Background*: This study assessed health care trainees perceptions of their education regarding transgender health care issues and personal and professional comfort level with the provision of transgender health care. An online 20 question survey (2013) about trainee experience and education on transgender health care was administered to medical (MD), nurse practitioner (NP), and physician assistant (PA) students at a single institution.**
***Methods*: The survey instrument consisted of seven demographic questions and 13 non-demographic questions about education in transgender health, hours of education received, and personal and professional comfort with transgender medical care. Non-demographic questions were written as even-point Likert scale questions with four rating options (very comfortable, somewhat comfortable, somewhat uncomfortable, and very uncomfortable).**
***Results*: A total of 484 MD, NP, and PA students responded to the online survey out of 1,035 eligible students (47% response rate). Only 74 (15%) respondents had provided medical care to a transgender patient. Provision of medical care to a transgender patient was associated with increased hours of education on transgender health issues (P<0.001). The majority of MD, NP and PA students (n= 374/ 77%) were personally comfortable or very comfortable with providing medical care to transgender patients.**
***Conclusions*: MD, NP, and PA students are personally comfortable with transgender patients but the vast majority do not come into contact with this patient population during their pre-clinical or clinical years. Increased student contact with transgender patients is associated with increased educational hours on transgender health care issues and is needed to provide the fullest educational experience for trainees in this area.**

transgender | education | health care | student

The transgender community faces health care disparities that result in significantly higher morbidity and mortality than other populations (1). Health problems faced by transgender patients include higher rates of psychiatric illness, substance abuse, physical and sexual assault, HIV/STI infections and other medical problems (2). Over 40% attempt suicide (3). Unfortunately, despite the increased burden of illness faced by this population, there is often less access to health care due to multiple issues including fear of the medical system or discrimination by health care workers. This disparity reveals an opportunity for meaningful improvements in care by increasing provider cultural competency and understanding of transgender health care needs.

In order to improve health care outcomes in this patient population, multiple regulatory and advisory agencies have issued recommendations to improve the educational experience regarding transgender health care. The American Medical Association has stated that all physicians (MD), both practicing and in training, should receive instruction in communication skills regarding issues of sexual orientation and gender identity (4). The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has stated that the physician assistant (PA) curriculum must prepare practitioners to provide care to diverse populations including the transgender community (5). Additionally, the Population-Focused Nurse Practitioner Competencies 2013 states that nurse practitioner (NP) students must learn to create a patient-centered climate of respect, trust, and support for transgender patients (6).

Despite this, in a recent survey of transgender patients approximately 50% of the respondents reported having to teach providers about transgender health needs and 28% reported experiencing verbal harassment in a medical setting (7). Little work has been done to date to assess the educational experiences of graduate level PA, nursing and medical students on the specific subject of transgender health care issues apart from the larger, multifaceted issue of LGBT health care (8, 9, 10). In order to improve the health care disparities experienced by transgender patients, it is first important to examine the current educational experience of future health care providers. The current study examines the perceptions of healthcare worker students in a single institution on their education, experience, and attitudes regarding transgender health care.

Materials and Methods

Approval from the University of Toledo Institutional Review Board (IRB) was obtained prior to conducting this study. MD students, PA students, and NP students were surveyed, during the months of October - December 2013, about their educational experience regarding transgender health issues using an online survey instrument (Survey Monkey). The survey instrument (see Appendix A1) consisted of three demographic questions (age, gender, and program/year of training), four questions about experiences with transgender patients (personal knowledge of people who are transgender, provision of medical care to a transgender patient, and if yes, how many patients and in what clinical setting), five self-assessment questions on knowledge base in transgender health issues and hours of education received, and eight questions about personal and professional comfort in issues in transgender care (such as counseling about safer sex or referring a patient for gender reassignment surgery).

Questions about knowledge base and personal/professional comfort were written as even-point Likert scale questions with four rating options (very comfortable, somewhat comfortable, somewhat uncomfortable, very uncomfortable). Incentives were not given. For purposes of analysis, preclinical students were defined as students who had the majority (>50%) of their educational experiences in the classroom setting (1st & 2nd year MD students and 1st year PA students). Clinical students were defined as students who had the majority (>50%) of their educational experiences in the patient care (non-

[1] To whom correspondence should be sent: joan.duggan@utoledo.edu

Author contributions: VS, AA, SD, and JD designed the research protocol. VS and AA collected study data; BS supervised the data analysis; all authors contributed to the manuscript and VS takes responsibility for the paper as a whole.

The authors declare no conflict of interest

Freely available online through the UTJMS open access option

Table 1. Demographics of student survey respondents

		Medical	Physician Assistant	Nurse Practitioner	Total
N / eligible Response rate		367 / 703 (52.2%)	84 / 88 (95.4%)	33 / 244 (13.5%)	488 / 1035 (46.8%)
Respondents					
Male		193/367 (52.6%)	32/84 (38.1%)	2/33 (6.1%)	227/484 (46.9%)
Female		171/367 (46.6%)	52/84 (61.9%)	31/33 (93.9%)	254/484 (52.5%)
Age≤25		254/367 (69.2%)	43/84 (51.2%)	5/25 (20%)	302/484 (62.4%)
Age>25		81/367 (22.1%)	41/84 (48.8%)	20/25 (80%)	142/484 (29.3%)
Preclinical	year 1- year 2-	120/367 (32.7%) 43/367 (11.7%)	44/84 (52.4%)	0/33 (0%)	240/484 (49.6%)
Clinical	year 3- year 4-	131/367 (35.7%) 73/367 (19.9%)	40/84 (47.6%)	33/33 (100%)	277/484 (57.2%)

classroom) setting (3rd & 4th year MD students, 2nd year PA students, NP students).

Statistical Analysis. IBM SPSS Statistics for Windows, Version 21.0 (IBM Corp. Released 2012. Armonk, NY: IBM Corp.) was used for statistical analysis. Chi-squared tests for independence were used to examine the relationships between variables, with an alpha level of 0.05.

Results

Description of Respondents. A total of 484 MD, NP, and PA students responded to the online survey out of 1,035 eligible students (46.8% response rate). Of the 484 MD, NP, and PA students surveyed, 227 (46.9%) identified themselves as male and 250 (51.7%) identified themselves as female. The average age was 25.1 years with 297 (65.9%) of respondents < 25 years of age. There were 277 (57.2%) respondents in the clinical group and 240 (49.6%) in the preclinical group (Table 1). Only 76 (15.7%) knew a transgender person personally and only 62 (12.8%) had ever provided care to a transgender person. There were no differences statistically for this by reported gender, age (< 25 or >25), or clinical training status (preclinical vs. clinical). Of the 74 respondents (74/484) who had provided medical care to a transgender patient, 62 (83.8%) had provided care to < two patients and the professional interactions occurred primarily in an outpatient setting (n=42/ 56.8%) or emergency room setting (n=18/ 24.3%).

Knowledge Base and Medical Education. Regarding self-assessment of knowledge base on transgender health issues, the majority of students (n=334/ 74.1%) did not feel prepared to provide health care to transgender patients. Health care professional students whose age was > 25, were less comfortable with their medical education in providing care to transgender patients (p=0.01). There was no statistically significant difference in comfort level based on gender, professional school, personal knowledge of transgender persons, or provision of medical care to transgender persons. There was a trend towards increased comfort level with medical preparation in the clinical group versus the preclinical group (p=0.05) but this did reach statistical significance. The vast majority of students had received < two hours of education on transgender medical care (n=418/ 92.7%) or transgender sexual health (n=426/ 94.5%). Provision of medical care to a transgender patient was associated with increased hours of education on transgender health issues (p<0.001). The type of professional school did not affect the number of educational hours spent on transgender health care topics (p=0.05).

Professional and Personal Comfort. Regarding professional comfort levels, the majority of students (n= 344/ 71.1%) felt that they would be comfortable providing medical care to transgender patients in a clinical setting. Interestingly, a significant minority (n= 122/25.2) were not comfortable as a health care provider working with transgender patients in a clinical setting. There were no differences statistically for this by reported gender, age (< 25 or >25), or clinical training status (preclinical vs. clinical). Regarding personal comfort levels with general provision of medical care, the majority of MD, NP, and PA students (n= 374/ 77.3%) were personally comfortable or very comfortable with providing medical care to transgender patients.

While the majority of students were comfortable providing safer sex counseling to transgender patients, this difference in comfort level was statistically significant (P<0.02) with age > 25, compared to age < 25. Students who listed their gender as female were personally more comfortable with use of hormonal therapy for gender transition (n= 130/ 54.6%) than male students (n= 101/ 46.3%), but this was not statistically significant (p= 0.07). Preclinical students were also personally more comfortable with hormonal therapy for gender transition than clinical students (142/59.7% vs 96/40.3% respectively, p < 0.001). Finally, medical students were personally more comfortable with referrals for gender reassignment surgery than PA and NP students, and this was also statistically significant (p=0.01).

Discussion

The transgender population often faces serious and significant health care issues deserving of culturally appropriate and knowledgeable health care providers in order to achieve optimal health outcomes (11). Given the current estimated population of 9 million transgender people in the United States, their health care needs are extensive and most providers will encounter them as patients in the course of their careers. Future health care workers are also likely to encounter transgender patients as well. They will need an appropriate education and cultural competence to provide for the physical and mental health care needs of the transgender patient population (12).

Despite this pressing need, this survey showed that educational hours devoted to transgender health care and direct patient contact with transgender patients remain limited for health care students across professional schools. While lack of formal educational hours devoted to transgender health care issues is not unique (13, 14), an important finding was that the provision of medical care to a transgender patient was associated with a greater number of educational hours spent learning about transgender health care issues.

Since provision of medical care to transgender patients is associated with educational hours regarding transgender health care, increased contact time with transgender patients may improve personal attitudes and professional knowledge base regarding transgender healthcare. In a study by Sanchez et al (9), of 3rd and 4th year medical students, greater clinical exposure to LGBT patients resulted in the taking of better sexual histories, more positive attitudes towards LGBT patients, and higher test scores on questions pertaining to LGBT health issues. The findings of this current study suggest that the goals and recommendations of the majority of governing and advisory bodies for health care workers is correct ? increased student contact with transgender patients is needed to give the fullest educational experience for trainees.

There are major limitations to this paper that are inherent to all single-center survey studies. These limitations include the following: dependence on subjective data and potential skewing of the data due to non-responders and partial responders. A low response rate from NP students (13.5%) may skew the data as well. The survey was not analyzed as if non-responders or partial responders where uncomfortable with transgender health issues. Additional survey studies of this important medical issue that include multiple centers should perhaps be structured to examine the possibility of even more extensive bias existing in the non-responders.

Recently, the American Association of Medical Colleges (AAMC) published their guidelines, *Implementing Curricular and Institutional Climate Changes to Improve Health Care for Individuals Who Are LGBT, Gender Nonconforming, or Born with DSD: A Resource for Medical Educators* (14). According to the AAMC, there are no standardized set of competencies with which medical schools specifically address the health care needs of individuals who identify as transgender. The guidelines recommend academic medical centers to provide integrated education about and support to this population, but also suggest that there are multiple options which should be explored to meet this goal.

Future areas of study, therefore, should include surveys of professional school students regionally and nationally, including assessments of NP and advanced practice nursing students. These surveys should assess the overall state of transgender health care education and explore strategies needed to improve and incorporate transgender health care issues into existing curriculum. Strategies to help shape medical education may include increasing contact with transgender patients during the clinical years as well as inclusion of transgender patients in case vignettes and as standardized patients. Other strategies would be a more in-depth analysis of student perspectives on transgender health using research tools such as focus groups to assess underlying issues that impede professional comfort with this population. The goal of increasing the number of knowledgeable and culturally competent health care workers who can provide medical care for the transgender community can only occur with adequate education of future health care providers through both didactic learning and clinical interactions.

1. Healthy People 2020. "Lesbian, Gay, Bisexual, and Transgender Health." Available at www.healthypeople.gov, accessed September 2, 2014.
2. Mayer KH, et al. (2008) Sexual and Gender Minority Health: What We Know and What Needs to Be Done. *Am J Pub Hlth* 98(6):989-995.
3. Grant JM, et al. (2011) Injustice at every turn: A report of the National Transgender Discrimination Survey. Washington: National Center for Transgender Equality and National Gay and Lesbian Task Force.
4. American Medical Association Policies on LGBT issues. Available at www.aamc.org, accessed September 2, 2014.
5. Accreditation Standards for Physician Assistant Education. Available at www.arc-pa.org, accessed September 2, 2014.
6. Population-Focused Nurse Practitioner Competencies 2013. Available at www.aacn.nche.edu, accessed September 2, 2014.
7. Rondahl G (2009) Students' Inadequate knowledge about lesbian, gay, bisexual and transgender persons. *Int J Nurs Educ Scholarsh* 6(1):1-16.
8. Chapman R, Watkins R, Zappia T, Nicol P, Shields L (2011) Nursing and medical students' attitude, knowledge and beliefs regarding lesbian, gay, bisexual and transgender parents seeking health care for their children. *J Clin Nurs* 21:938-1045.
9. Sanchez NF, Rabatin J, Sanchez JP, Hubbard S, Kalet A (2006) Medical students' ability to care for lesbian, gay, bisexual, and transgendered patients. *Fam Med* 38(1):21-27.
10. Institute of Medicine (2011) The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding. Available at http://iom.nationalacademies.org, Accessed September 2, 2014.
11. Roberts TK, et al. (2014) Interpreting laboratory results in transgender patients on hormonal replacement therapy. *Am J Med* 127:159-162.
12. Kosenko K, Rintamaki L, Raney S, Maness K (2013) Transgender patients perceptions of stigma in health care contexts. *Med Care* 51(9):819-822.
13. Snelgrove JW, Jasudavisius AM, Rowe BW, Head EM, Bauer GR (2012) "Completely out-at-sea" with "two-gender medicine": A qualitative analysis of physician-side barriers to providing healthcare for transgender patients. *BMC Health Serv Res* 4(12):110.
14. Association of American Medical Colleges Implementing Curricular and Institutional Climate Changes to Improve Health Care for Individuals Who Are LGBT, Gender Nonconforming, or Born with DSD: A Resource for Medical Educators. (2014) Available at <http://tinyurl.com/paf46wu>, accessed November 22, 2014.

APPENDIX:

Assessing Medical Attitudes Toward Transgender Care Survey

1. What is your current age? _____
2. What is your program and year of training?
   MD: M1 [ ] M2 [ ] M3 [ ] M4 [ ]
   PA : PA-S1[ ], PA-S2 [ ], PA-S3 [ ]
   NP: NP1 [ ], NP2 [ ], NP3 [ ]
3. What was your gender at birth? Male _____ Female _____

Experience

4. Do you personally know anyone who identifies as transgender? Yes __ No __
5. Have you ever provided care to a transgender patient? Yes _____ No _____
6. If yes, how many patients? 1-2 _____ 3-5 _____ more than 5 _____
7. If yes, in what setting:

emergency room [ ]
primary care [ ]
endocrine [ ]
surgery [ ]
pediatrics [ ]
psychiatry [ ],
other [ ] (please specify _____)

Knowledge Base

8. How would you rate your competence in dealing with a transgender patient's sexual health concerns?
   Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

9. How would you rate your competence in dealing with a transgender patient's specific medical concerns? (e.g. hormone therapy, surgical referral)
   Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

10. How many hours of education would you estimate you've had regarding transgender health care?
    0 1-2 3-4 5-6 7+

11. How many hours of education would you estimate you've had regarding transgender sexual health?
    0 1-2 3-4 5-6 7+

12. How well do you feel your medical education has prepared you to provide care for transgender patients?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

Attitudes
How would you rate:

13. Your **professional** comfort level in providing care to a transgender patient in a clinical setting?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

14. Your **personal** comfort level in being known as a provider of care to transgender patients?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

15. Your **personal** comfort level with counseling a transgender patient on safer sex practices?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

16. Your **personal** comfort level with providing mental health care to a transgender patient?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

17. Your **personal** comfort level with prescribing hormone therapy to achieve gender transition for a transgender patient?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

18. Your **personal** comfort level in referring a transgender patient for gender reassignment surgery?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

19. Your **personal** comfort level with providing prostate exams for male to female (MTF) transgender patients?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable

20. Your **personal** comfort level with providing Pap smears to female to male (FTM) transgender patients?
    Very comfortable somewhat comfortable somewhat uncomfortable very uncomfortable